

ITO COATED GLASS

USER MANUAL

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Working

ITO COATED GLASS (Indium tin oxide coated glass) belongs to the TCO (transparent conducting oxide) conductive glasses group. It is mainly produced by the magnetron sputtering method. Primarily it is used in research and development. It has high conductivity and transmittance, which makes it highly suitable for many applications.

■ Product Series: TIXY

Technical Properties:

Specified ITO Sheet resistivity – ≤ 20 ohms/sq

Typical ITO Sheet resistivity – 18-20 ohms/sq

Transmittance at 550nm – $\geq 85\%$

ITO film Thickness – 1350-1500 Å

Glass Thickness – 1.1mm

■ Product Series: TIXW

Technical Properties:

Specified ITO Sheet resistivity – ≤ 100 ohms/sq

Typical ITO Sheet resistivity – 90-100 ohms/sq

Transmittance at 550nm – $\geq 83\%$

ITO film Thickness – 250-270 Å

Glass Thickness – 0.7mm



■ **Product Series: TIX**

Technical Properties:

Specified ITO Sheet resistivity – ≤ 10 ohms/sq

Typical ITO Sheet resistivity – 8~10 ohms/sq

Transmittance at 550nm – $\geq 90\%$

ITO film Thickness – 1800-2000 Å

Glass Thickness – 1.1mm

■ **Product Series: TIXZ**

Technical Properties:

Specified ITO Sheet resistivity – ≤ 10 ohms/sq

Typical ITO Sheet resistivity – 8-10 ohms/sq

Transmittance at 550nm – $\geq 85\%$

ITO film Thickness – 1800-2000 Å

Glass Thickness – 0.7mm

Physical Properties

Configuration – ITO on Passivation layer on Glass

Substrate – Soda lime glass / Float Glass

Surface Coating of Glass – Single-Sided Coating

Passivation layer thickness – Silicon dioxide (25nm)

ITO coating method – Magnetron sputtering under vacuum condition

Operating Temperature – 300 °C

ITO work function – 4.8 4.9eV (measured by UPS) after proper cleaning

Surface Roughness – RMS1 10 nm, depending on various product

Size Variant

25mm x 25mm | 50mm x 25mm | 50mm x 50mm | 75mm x 25mm
100mm x 100mm | 405mm x 355mm

■ Important Note:

1. Customization can be provided as per size or specifications.
2. Patterning is also done as per the design given by the client.

Applications

1. Digital microfluidic devices
2. Display and other Optoelectronic devices
3. Solar cell fabrication
4. As substrates for Barium Vanadate films
5. EMF/EMI/EMC/RFI/HF Shielding applications
6. Flat antennas for mobile communication
7. De-icing applications
8. ITO glass heater and antistatic windows
9. ITO defrosting coating for aerospace technology
10. Use in camera and Spectro-electrochemistry
11. Organic Light Emitting Diode [OLED] and Electro-Luminescent Display [ELD]
12. Photovoltaic cell making
13. Switchable Windows
14. Biological devices and use as a cell culture substrate
15. Display technology such as LCD, Plasma Display, Flat Panel Display

Storage And Stability

This product should be stored at room temperature and Pressure, and its stability is indefinite. It should be placed in a clean environment.

Precautions and Disclaimer

These products are for R&D and industrial use, not for drug, household, personal, or other uses.

Packaging

It is supplied in bundles with highly-protective layers between individual slides within a light-protected, moisture-free, specially manufactured paper sheet.

Handling

At the time of slide handling, the researcher should use powder-free non-latex gloves, which should be handled carefully. While experimenting, if researched using a substrate with bare hands, the chances of contamination of coated surface due to finger oil are very high. Therefore it is advised to use nylon or polyester gloves. Each slide is well packed in moisture-free paper, so they should not rub each other.

If any researcher wants to check the resistivity, it is advisable to measure with the help of 4 probe methods to get an accurate result.

Cleaning Procedure

While cleaning ITO slides, safety apparel and protection should be worn. The cleaning process should be done in a fume hood to avoid contamination and maintain an impurity-free environment.

1. Sonication of the sample plays an essential role in the cleaning process of the substrate.
2. Initially, take acetone and mix it with the substrate, which is to be cleaned, and it will sonicate approximately for 20 minutes.
3. Then, take the sample out of the sonicator and dry it.

Take Isopropyl alcohol (IAP) and ITO plate for re-sonication for 20 minutes.

4. The sample is placed in a UV-ozone instrument to remove the remaining organic contaminant. It also increases the hydroxyl concentration due to oxidation on surfaces.
5. Then, place the substrate in a vacuum oven to remove the organic solvent used during the cleaning process.
6. After proper cleaning, place the sample in the desiccator until its use.

Feel Free to Reach Us

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